

A New Species of the Genus *Cosmochthonius* (Acari, Oribatida) from the Imperial Palace, Tokyo

By

Jun-ichi Aoki¹⁾

青木淳一¹⁾: 皇居から見出されたカザリヒワダニ属の新種

In the family Cosmochthoniidae three species of the genus *Cosmochthonius*, *C. reticulatus* Grandjean, 1947, *C. lanatus foveolatus* Beck, 1962 and *C. nayoroensis* Fujikawa, 1980, have hitherto been known from Japan. The fourth species found from litter sample taken in the Imperial Palace will be described below as a new.

Cosmochthonius imperfectus sp. n.

(Figs. 1–3)

Measurement. Body length 305–320 μm , width 180 μm .

Prodorsum. Rostrum with 8–9 short longitudinal lines of light spots. Rostral seta with a thick stem and numerous spines bilaterally, being inserted on a prominent apophysis. Lamellar seta arboraceous, with many branches; each branch divided again apically. Interlamellar seta with a thick stem, similar in shape to rostral one, but smaller than the latter and most of spines divided apically. Exobothridial seta with a thin stem and numerous spines divided apically. Mutual distances: ro-ro = in-in > le-le. Sensillus with a thin stem slightly thickened in its distal half bearing numerous spines, longer on one side and shorter on the other side. A thin transverse ridge between insertion pores of interlamellar setae.

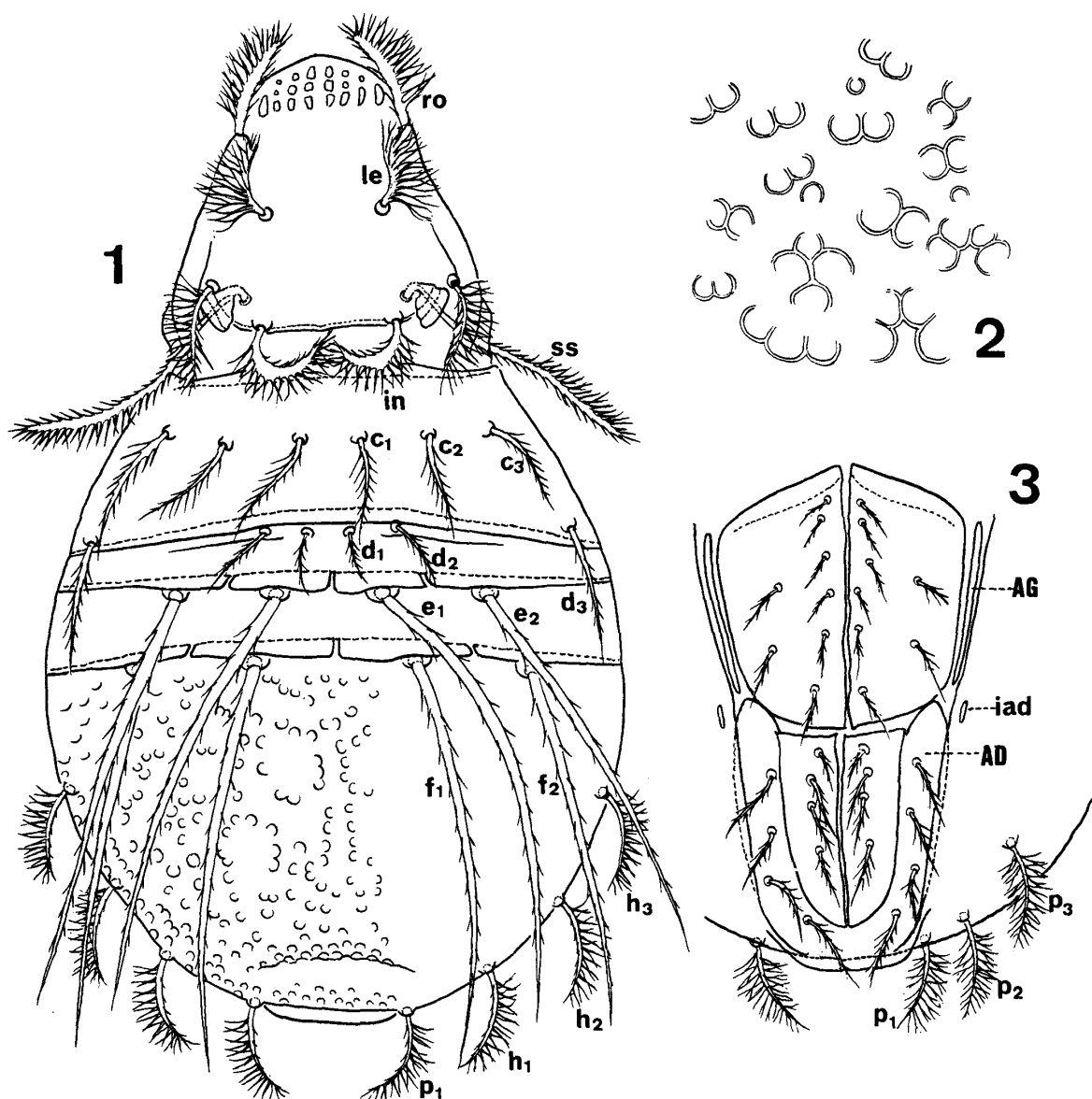
Notogaster. Oval in shape, divided into four fields by three transverse ridges; the second and third ridges each divided into four parts, each bearing a strong seta sparsely barbed (e_1 , e_2 , f_1 and f_2). The anteriormost field of notogaster with 3 pairs of barbed setae (c_1 and c_2) anteriorly and one pair of setae (d_3) posterolaterally. The second field with 2 pairs of short barbed setae (d_1 and d_2) anteriorly inserted close together. Along posterolateral margin of notogaster inserted 6 pairs of curved setae with dense spines (h_1 – h_3 and p_1 – p_3). Surface of notogaster smooth on 1st–3rd fields and foveolate only on 4th field; the foveolae scattered rather sparsely and not completely circular, but incomplete and 2–4 of them often connected together (Fig. 2). A shallow concavity found near the posterior end of notogaster.

Ventral side. Genital opening large, as long as wide. Genital plate weakly pointed anteriorly, bearing 6 setae along median margin and 2 setae laterally. Anal plate with 4 setae, a little larger than genital setae. Left and right adanal plates fused posteriorly to form a U-shaped plate, the posterior end project-

¹⁾ Institute of Environmental Science and Technology, Yokohama National University, Tokiwadai, Hodogaya-ku, Yokohama-shi, 240–8501 Japan

E-mail: aoki@kan.ynu.ac.jp

横浜国立大学環境科学研究センター 横浜市保土ヶ谷区常盤台 79–7



Figs. 1–3. *Cosmochthonius imperfectus* sp. n. 1. Dorsal side of body. 2. Surface sculpture on the posterior half of notogaster. 3. Ano-genital region.

ing a little beyond the posterior margin of notogaster (Figs. 1–3). Aggenital plate long and very slender, 4/7 as long as genital plate. Adanal fissure located outside anterior end of adanal plate on each side. Setal formula of epimerata: 3–1–3–3; seta 2a distinctly barbed and far longer than the remaining setae. Hypostomal seta m_1 inserted in level a little posterior to that of m_2 .

Type series. Holotype (NSMT–Ac 11130) and a paratype (NSMT–Ac 11131): East side of Kami-Dokanbori, 4–XII–1997, J. Aoki. From litter accumulated in a root hole of a large tree (*Zelkova serrata* Makino) [IP–W].

Remarks. In having sculpture only in the posteriormost field of notogaster behind the third transverse suture, the new species resembles *Cosmochthonius spinosus* Gil, Subias et Candelas, 1991, from Spain, *C. semifoveolatus* Subias, 1982, from Spain and *C. tenuisetus* Gordeeva, 1980, from Russia. The new



Fig. 4. The habitat of *Cosmochthonius imperfectus* sp. n. Litter accumulated in a root hole of *Zelkova serrata* Makino near Kami-Dokanburi.

species is, however, distinguishable from these species by (1) short dorsal setae d_1 and d_2 , only slightly extending beyond the second transverse suture, (2) dorsal foveolae on the posterior part of notogaster not completely circular, but incomplete and 2–4 of them often connected together, (3) the posterior end of adanal plates projecting beyond the posterior margin of notogaster, and (4) larger body size. The long and slender aggenital plates must be also one of the characteristic features of the new species.

要 約

東京の都心部にある皇居内の調査で 68 種のササラダニ類が採集されたが、その中にカザリヒワダニ科の新種が含まれており、ミカドカザリヒワダニ *Cosmochthonius imperfectus* と命名し、記載した。本種の特徴は背毛 d_1 および d_2 が短いこと、胴背面の凹穴が完全な円でなく、いくつかが連結していること、肛側板の後部が体縁を越えて少し突出していること、性側板がきわめて細長いことなどによって、従来日本から知られている同属の 3 種から区別される。なお、本種は上道灌濠の東側のケヤキの大木根本のウロの中にたまった落葉からのみ発見され、他の場所からは見出されていない。

References

- Gil, J., L. S. Subias & E. Candelas, 1991. La familia Cosmochthoniidae Grandjean, 1947, en la Peninsula Iberica (Acari, Oribatida). *Zool. baetica*, 2: 47–70.
- Gordeeva, E. V., 1980. Oribatid mites of the family Cosmochthoniidae (Oribatei). *Zool. Zh.*, 59: 838–850. (In Russian.)
- Subias, L.S., 1982. Oribatidos de Murcia I (Oribatidos inferiores. Parte I) (Acarida, Oribatida). *Anal. Univ. Murcia*, 38:133–151.